

APPENDIXCLAIMS APPEALED

1. A vaccine composition capable of producing a respiratory syncytial (RS) virus specific protective immune response in a human host immunized therewith, comprising a purified, inactivated RS viral preparation which is free from cellular and serum components and which is non-infectious, non-immunopotentiating, immunogenic and protective, and a carrier therefor.
3. The composition of claim 1 wherein said carrier further comprises an adjuvant.
4. The composition of claim 1 formulated to be administered in an injectable form, intranasally, orally, or to mucosal surfaces.
5. A method of preparing a non-immunopotentiating, vaccine composition capable of protecting a human host immunized therewith against disease caused by infection by respiratory syncytial (RS) virus, which comprises:
  1. growing RS virus on a continuous cell line of vaccine quality to produce a grown virus;
  2. harvesting said grown virus to produce a harvested virus;
  3. purifying said harvested virus under non-denaturing conditions to produce a purified virus free from cellular and serum components;
  4. inactivating said purified virus with an inactivating agent to provide a non-infectious, non-immunopotentiating and protective RS viral preparation, and
  5. formulating said non-infectious, non-immunopotentiating and protective RS viral preparation as a vaccine.
6. The method of claim 5 wherein said inactivating agent is  $\beta$ -propiolactone.
7. The method of claim 5 wherein said inactivating agent is a non-ionic detergent.
8. The method of claim 7 wherein said non-ionic detergent is selected from the group consisting of n-octyl- $\alpha$ -D-glucopyranoside and n-octyl- $\beta$ -D-glucopyranoside.
9. The method of claim 5 wherein said inactivating agent is ascorbic acid.

11. The method of claim 5 wherein said continuous cell line is a VERO cell line.

12. A method of preparing a non-immunopotentiating vaccine capable of protecting a human host immunized therewith against disease caused by infection by respiratory syncytial (RS) virus, which comprises:

growing RS virus on a continuous cell line of vaccine quality to produce a grown virus;

harvesting said growth virus to produce a harvested virus;

purifying said harvested virus under non-denaturing conditions to produce a purified virus substantially free from cellular and serum components by:

(i) microfiltration to remove cell debris,

(ii) tangential flow ultrafiltration to remove serum components and provide a retentate,

(iii) pelleting the retentate by ultracentrifugation to further remove serum components, and

(vi) subjecting the pelleted material to sucrose density gradient centrifugation;

inactivating said purified virus with an inactivating agent selected from the group consisting of  $\beta$ -propiolactone, a non-ionic detergent which is n-octyl- $\alpha$ -D-glucopyranoside or n-octyl- $\beta$ -D-glucopyranoside, and ascorbic acid, to provide a non-infectious, non-immunopotentiating and protective RS viral preparation, and

formulating said non-infectious, non-immunopotentiating and protective RS viral preparation as a vaccine.

13. The method of claim 12 wherein said tangential flow ultrafiltration is effected by employing an about 100 to about 300 kDa nominal molecular weight cutoff membrane.

14. A method of preparing a non-immunopotentiating vaccine capable of protecting a human host immunized therewith against disease caused by infection by respiratory syncytial (RS) virus, which comprises:

growing RS virus on a continuous cell line of vaccine quality to produce a grown virus;

harvesting said growth virus to produce a harvested virus;

purifying said harvested virus under non-denaturing conditions to produce a purified virus substantially free from cellular and serum components by:

- (i) microfiltration to remove cell debris,
- (ii) tangential flow ultrafiltration to remove serum components,
- (iii) gel filtration to further remove serum components, and
- (vi) ion-exchange chromatography to additionally remove serum components;

inactivating said purified virus with an inactivating agent selected from the group consisting of  $\beta$ -propiolactone, a non-ionic detergent which is n-octyl- $\alpha$ -D-glucopyranoside or n-octyl- $\beta$ -D-glucopyranoside, and ascorbic acid, to provide a non-infectious, non-immunopotentiating and protective RS viral preparation, and

formulating said non-infectious, non-immunopotentiating and protective RS viral preparation as a vaccine.

15. A method of immunizing a host against disease caused by respiratory syncytial virus, which comprises administering to the host an effective amount of the vaccine composition of claim 1.

16. The method of claim 15 wherein said host is selected from infants, young children, pregnant women, women of child-bearing age, elderly individuals, immunocompromised individuals and susceptible persons.